

ABSTRACT OF THE DISCLOSURE

Techniques are provided for fine-tuning estimates of a delay value for a sampled signal. One aspect of the invention is to perform, for the sampled signal, coarse-grained calculations of the In Phase and Quadrature (I and Q) correlation integrals at a limited number of points, wherein the calculations are performed over a range of hypothesized delay values. A range of delay values of interest are then determined from the coarse-grained calculations of the I and Q correlation integrals. A subset of I and Q values based on the coarse granularity calculations of the I and Q correlation functions is used to perform a time-domain interpolation to obtain fine-grained values of the I and Q integrals in the range of the delay values of interest. Magnitude calculations are performed based on the fine-grained values of the I and Q integrals. Fine-tuned estimates of delay value are based on the magnitude calculations. Alternatively, fine-tuned estimates of delay value are based on the template-matching approach.